

**Abstract**

The electrical discharge machining device comprises a first voltage/current source (U1) for discharge initiation connected to the tool electrode (F) and a workpiece electrode (P) forming the poles of a machining gap (G) and a second voltage/current source (U2) that can be disconnected by way of two switches (SW1, SW2). Capacitive elements (C1, C5) are mounted in series in the lines (10, 11) connecting the first source to the poles of the machining gap (G). In addition, these poles can be connected by a self-induction coil (Lm) mounted in series with an adjustable DC source (Sm). Thanks to these features, the energy of the eroding discharges can be significantly reduced in order to obtain a superfine surface finishing process of high quality, while at the same time precisely controlling the mean voltage across the terminals of the machining gap.

(figure 5)